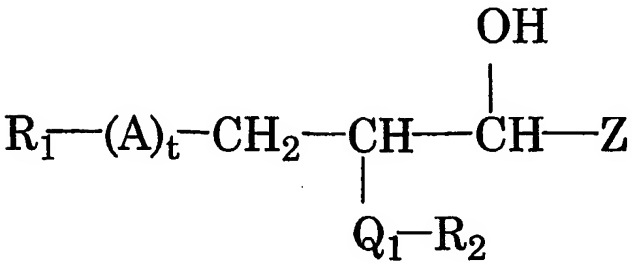
AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) Use of a sphingolipid with ~~the~~ a general formula ~~(I):~~ selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

~~for the manufacture of a medicament for the prevention and/or treatment of a disorder selected from the group consisting of insulin resistance, diabetes type 2 and Metabolic Syndrome.~~

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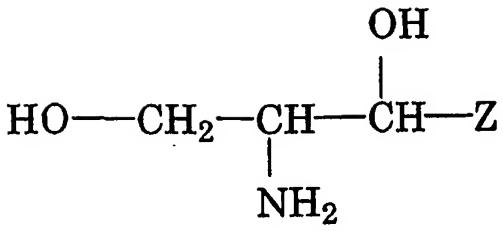
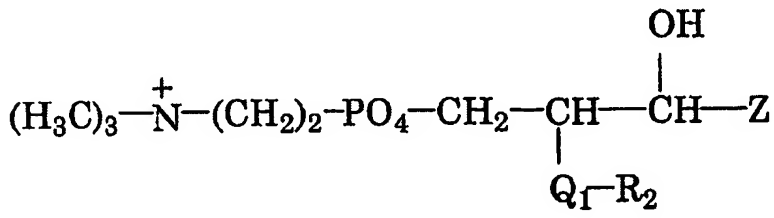


(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, a derivative or a pharmaceutically acceptable salt thereof,

for the manufacture of a medicament for the prevention and/or treatment of a disorder selected from the group consisting of insulin resistance, diabetes type 2 and Metabolic Syndrome.

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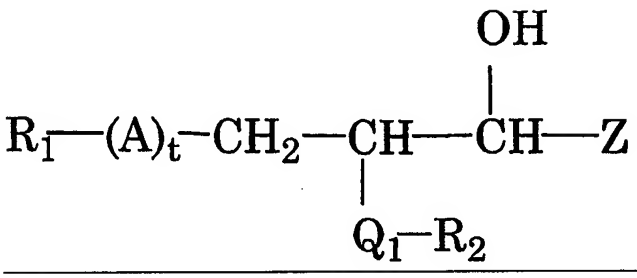
2. (WITHDRAWN)

3. (WITHDRAWN)

4. (CURRENTLY AMENDED) Use of a sphingolipid selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

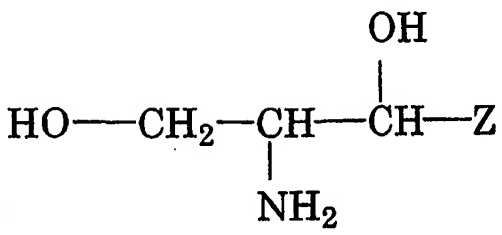
R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(II)

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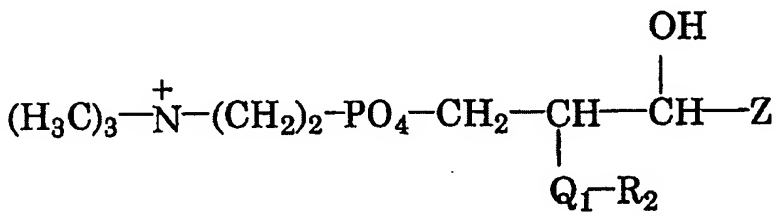
wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, a derivative or a pharmaceutically acceptable salt thereof,

in food ~~according to the formula (I) as defined in claim 1 or formula (II) as defined in claim 2, or formula (III) as defined in claim 3, or a precursor or a derivative thereof~~ for the prevention and/or treatment of insulin resistance, type 2 diabetes mellitus and ~~m~~Metabolic ~~s~~Syndrome.

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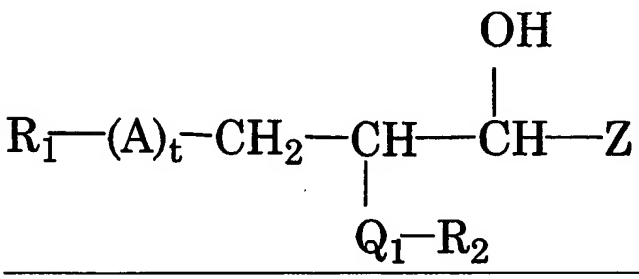
5. (CURRENTLY AMENDED) Use according to claim ~~2~~ 1, wherein said sphingolipid is of formula (II) and is phytosphingosine, sphingosine, sphinganine, ceramide, cerebroside and/or sphingomyelin.

6. (CURRENTLY AMENDED) Use according to claim ~~3~~ 1, wherein said sphingolipid is of formula (III) and is sphingomyelin.

7. (CURRENTLY AMENDED) Method of preventing the occurrence of insulin resistance, diabetes type 2 and/or Metabolic Syndrome in a healthy subject comprising providing said subject a diet with enhanced levels of a sphingolipid ~~as defined in any one of claims 1-6~~ selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

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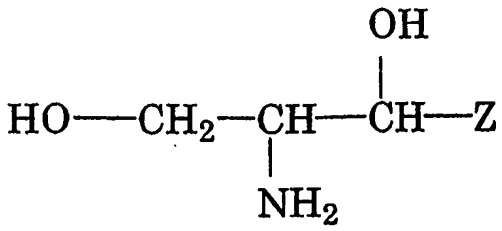
t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

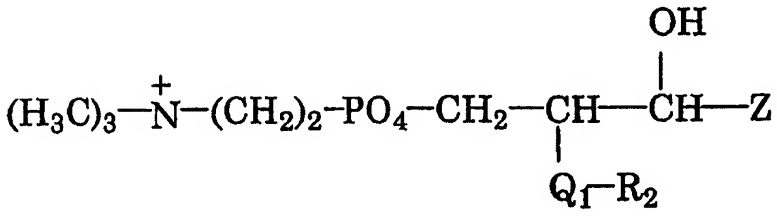


(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

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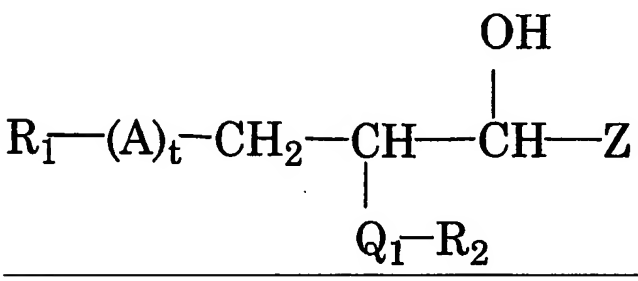
or a precursor, a derivative or a pharmaceutically acceptable salt thereof.

8. (CURRENTLY AMENDED) Method of treatment of a subject suffering from insulin resistance, diabetes type 2 and/or Metabolic Syndrome, said method comprising ~~administrating [spelling?]~~ administering to a subject in need thereof a therapeutically effective amount of a pharmaceutical composition, said composition comprising a sphingolipid selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

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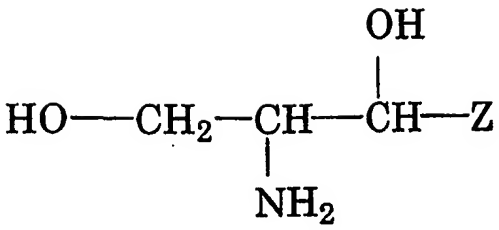
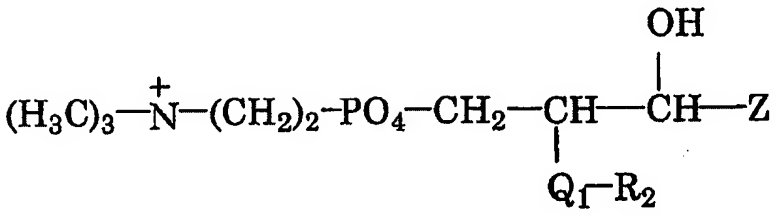


(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

~~according to the formula (I) as defined in claim 1, or formula (II) as defined in claim 2, or formula (III) as defined in claim 3,~~ or a precursor, a derivative or a pharmaceutically acceptable

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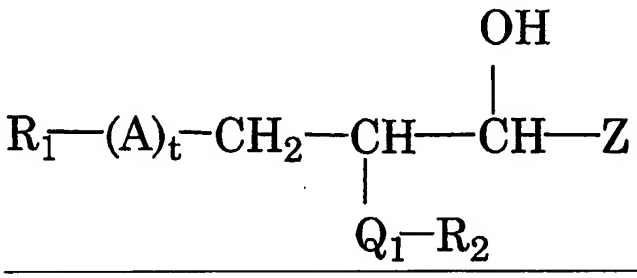
salt thereof and a pharmaceutically acceptable carrier~~, and optionally one or more excipients~~.

9. (CURRENTLY AMENDED) Use of a food item with enhanced levels of a sphingolipid ~~according to the formula (I) as defined in claim 1, or formula (II) as defined in claim 2, or formula (III) as defined in claim 3,~~ selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

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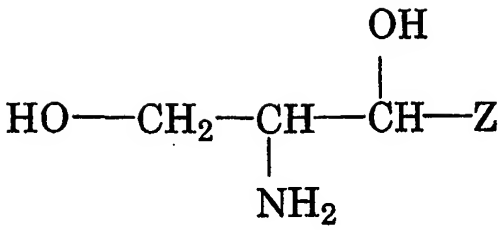
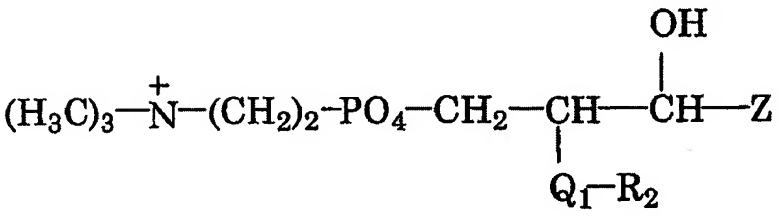


(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, ~~or~~ a derivative or a pharmaceutically acceptable salt thereof,

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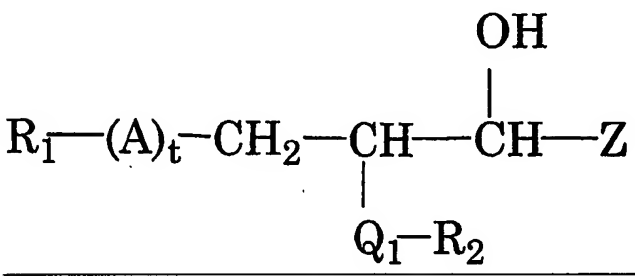
–for the prevention and/or treatment of a disorder selected from the group consisting of insulin resistance, diabetes type 2 and Metabolic Syndrome.

10. (CURRENTLY AMENDED) Use of a food item with enhanced levels of a sphingolipid ~~according to the formula (I) as defined in claim 1, or formula (II) as defined in claim 2, or formula (III) as defined in claim 3,~~ selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

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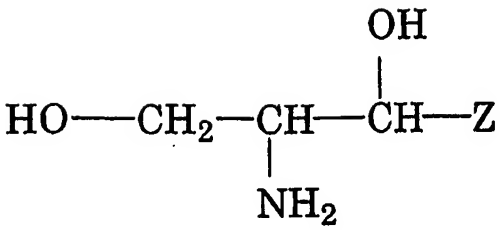
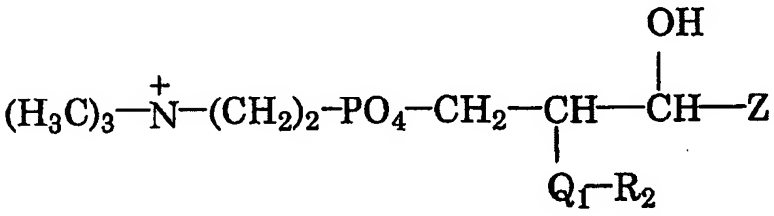


(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, a derivative or a pharmaceutically acceptable salt thereof,

~~or a precursor or a derivative thereof~~ in a diet for lowering and/or preventing insulin resistance.

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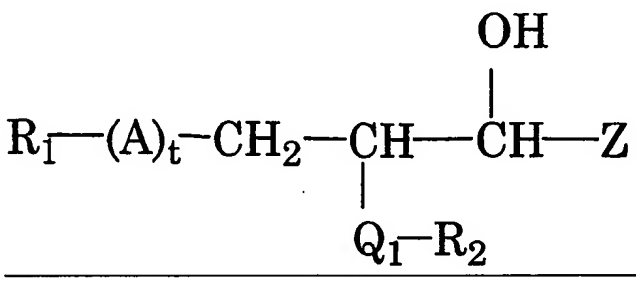
11. (CURRENTLY AMENDED) Use of a sphingolipid ~~as defined in any one of claims 1-3~~ selected from the group consisting of:



(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

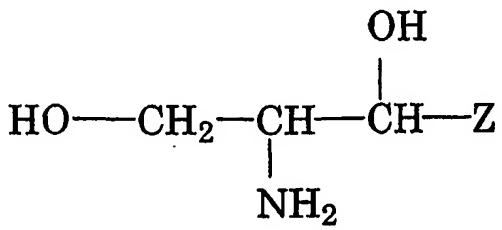
R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(II)

wherein

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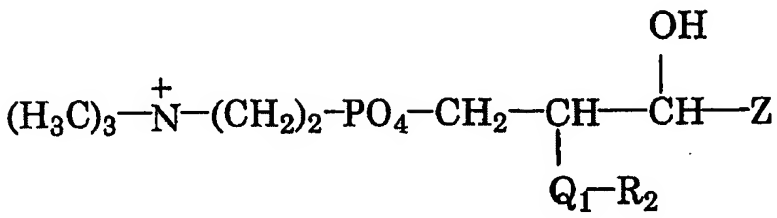
Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, a derivative or a pharmaceutically acceptable salt thereof,

for the manufacture of a medicament for improving the capacity for the physiological removal of glucose from the blood stream and/or for improving the capacity for maintaining blood glucose homeostasis in a subject in need thereof, preferably in insulin resistant subjects.

12. (CURRENTLY AMENDED) Use of a sphingolipid ~~as defined in any one of claims 1-3~~ selected from the group consisting of:

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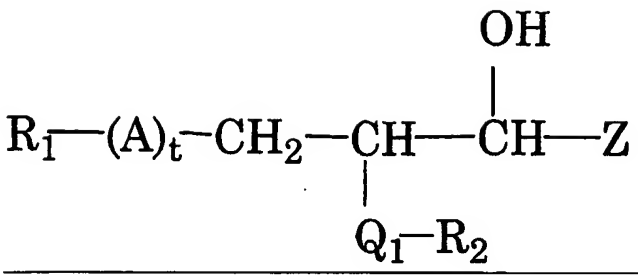


(I)

wherein

Z is R_3 or -CH(OH)-R_3;

A is sulphate, sulphonate, phosphate, phosphonate or -C(O)O-;

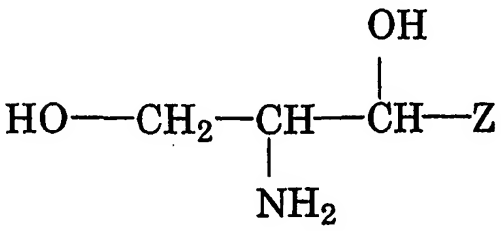
R_1 is H, hydroxyl, alditol, aldose, an alcohol, C_1-C_6 alkyl or amino acid;

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is unsaturated or saturated (C_1-C_{30}) alkyl chain;

Q_1 is a primary amine group (-NH_2), secondary amine group (-NH-) or an amide group (-NH-CO-); and

t is 0 or 1, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and



(II)

wherein

Z is R_3 or CH(OH)-R_3, and

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, or a precursor, a derivative or a pharmaceutically acceptable salt thereof, and

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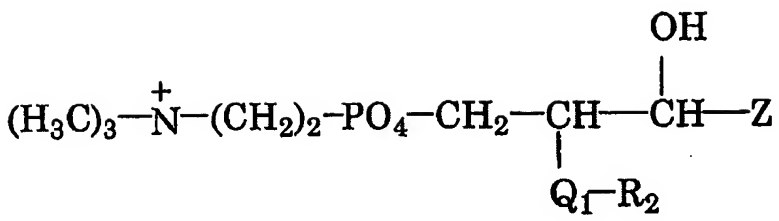

(III)

wherein

Z is R_3 or CH(OH)-R_3, preferably R_3;

Q_1 is a primary amine group (-NH_2), a secondary amine group (-NH-) or an amide group (-NH-CO-); preferably an amide group, and

R_2 is H or unsaturated or saturated (C_1-C_{30}) alkyl chain;

R_3 is an unsaturated or saturated (C_1-C_{30}) alkyl chain, preferably an unsaturated (C_1-C_{30}) alkyl chain,

or a precursor, a derivative or a pharmaceutically acceptable salt thereof,

for the manufacture of a food item or food supplement for improving the capacity for the physiological removal of glucose from the blood stream and/or for improving the capacity for maintaining blood glucose homeostasis in a subject in need thereof, preferably in insulin resistant subjects.

13. (NEW) The method of claim 8 further including administering one or more excipients.

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